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Cc: CN=DavidW Smith/OU=R9/O=USEPA/C=US@EPA;CN=Jennifer Wigal/OU=DC/O=USEPA/C=US@EPA;CN=Jessica Kao/OU=R9/O=USEPA/C=US@EPA[]; N=Jennifer Wigal/OU=DC/O=USEPA/C=US@EPA;CN=Jessica Kao/OU=R9/O=USEPA/C=US@EPA[]; N=Jessica Kao/OU=R9/O=USEPA/C=US@EPA[]
From: CN=Terry Oda/OU=R9/O=USEPA/C=US
Sent: Thur 6/20/2002 11:36:18 PM
Subject: Re: URGENT re: Delta D.O. objectives disapproval and D.O. TMDL
[Kathleen Goforth 's Mail](#)
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My read is that COLD covers migration and juvenile development (habitat) , whereas SPWN includes reproduction which is a very different use with very different needs.

Kathleen Goforth
06/20/2002 04:14 PM

To: Terry Oda/R9/USEPA/US@EPA
cc: DavidW Smith/R9/USEPA/US@EPA, Jennifer Wigal/DC/USEPA/US@EPA, Jessica Kao/R9/USEPA/US@EPA
Subject: Re: URGENT re: Delta D.O. objectives disapproval and D.O. TMDL

I asked Joe Dillon at NMFS whether early life stages of salmonids are likely to be present in the Delta. Here's his reply:

"Yes. Chinook salmon migrate through the Delta as juveniles. Some have been found in San Francisco Bay that are still considered fry (<60mm) during wet years. Chinook start to smolt around 4 to 6 months of age and head for the ocean at different times of the year depending on ESU. Some steelhead will also head for the Delta as juveniles as river temperatures increase if they can not find refuge in tributaries."

Based on this, it appears that the DO objectives that currently apply to the Delta are unprotective of salmonids. It also appears that the Basin Plan should be amended to add SPWN (cold) as a beneficial use for the Delta.

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----- Forwarded by Kathleen Goforth/R9/USEPA/US on 06/20/2002 04:15 PM -----

Kathleen Goforth
06/20/2002 09:40 AM

To: Terry Oda/R9/USEPA/US
cc: DavidW Smith/R9/USEPA/US@EPA, Jennifer Wigal/DC/USEPA/US@EPA, Jessica Kao/R9/USEPA/US@EPA
Subject: Re: URGENT re: Delta D.O. objectives disapproval and D.O. TMDL

Terry -

The national criteria guidance for DO actually recommends against the use of percent saturation, because it is "more complex to administer and could often result in unnecessarily stringent criteria in the cold months and potentially unprotective criteria during periods of high ambient temperature or at high elevations". Of course, when paired with appropriate concentration-based criteria, the risk of underprotection is reduced. The reasons we disapproved the removal of the general saturation-based criteria from the Delta were because: (a) for some portions of the Delta, the saturation-based criteria were the only DO criteria that applied (those waters, which are poorly defined, now have no DO criteria at all), and (b) the Regional Board had not demonstrated that the concentration-based objectives that remain for other Delta waters are, alone, protective of beneficial uses, and (c) the Regional Board had not demonstrated that removal of the saturation-based objectives was consistent with the antidegradation policy.

Due to the questionable value of saturation-based criteria, our disapproval did not absolutely require the RB to reinstate those criteria; rather, it said that the RB must "amend the Basin Plan to either restore the applicability of the general DO objectives to all Delta waters, or apply new DO objectives to ensure that the designated uses of all Delta waters are protected", thereby giving them the option of coming up with something more appropriate than the saturation-based objectives. Of course, they were supposed to do that within 90 days, and that was 2 years ago.

The national water column DO criteria, expressed as mg/L, are:

Coldwater Criteria		Warmwater Criteria	
Early Life Stages	Other Life Stages	Early Life Stages	Other Life Stages
30 day mean	NA	6.5	NA
7 day mean	9.5	NA	6.0
NA			
7 day mean minimum	NA	5.0	NA
1 day minimum	8.0	4.0	5.0

The DO criteria (mg/L) in the Basin Plan that currently apply within the boundaries of the Delta [which is designated COLD and SPWN (warm)] are all expressed as minimum concentrations, as follows:

Sacramento River (below I Street Bridge) and all Delta waters west of Antioch Bridge -----	7.0
San Joaquin River (between Turner Cut and Stockton), September 1 - November 30 -----	6.0
All other Delta waters except those constructed for special purposes and from which fish have been excluded or where the fishery is not important as a beneficial use -----	5.0
Delta water bodies constructed for special purposes and from which fish have been excluded or where the fishery is not important as a beneficial use -----	No DO objective

Prior to the 1994 Basin Plan amendments, the following DO criteria also applied to all waters within the Sacramento/San Joaquin Basins, including the Delta:

"The monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation." The removal of these criteria from the Delta was what we disapproved in May 2000. These criteria remain in effect for waters outside of the Delta.

Although I remain concerned about the Delta waters for which no DO objectives currently apply, no one seems to know which waters these are, so, as long as the RB always applies at least the 5.0 minimum DO criterion to all Delta waters, that gap in the objectives may not mean much in practice (but it should be fixed nonetheless). I don't know if early life stages of salmonids are present in the Delta -- I'll check with NMFS on that. If not, then the current Basin Plan objectives would appear to be adequate 1-day minimum values; however, the Basin Plan lacks 7- and 30-day mean values, which are important components of the national criteria. If only the Basin Plan's currently applicable minimum levels are met, fish and/or their invertebrate prey may be chronically stressed. If

and when early life stages of salmonids are present in the Delta, then the current Basin Plan objectives are wholly inadequate.

-Kathy

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Terry Oda
06/19/2002 07:26 PM

To: Kathleen Goforth/R9/USEPA/US@EPA
cc: DavidW Smith/R9/USEPA/US@EPA, Jennifer Wigal/DC/USEPA/US@EPA, Jessica Kao/R9/USEPA/US@EPA
Subject: Re: URGENT re: Delta D.O. objectives disapproval and D.O. TMDL

my initial reaction is to go along with Betty's approach. But we should be sure that they adopt values that are consistent with current agency thinking to ensure that appropriate numbers are adopted. Is saturation necessary if you have numeric DO criteria that are protective of the use?

Kathleen Goforth
06/19/02 06:29 PM

To: Terry Oda/R9/USEPA/US@EPA, Jessica Kao/R9/USEPA/US@EPA, Jennifer Wigal/DC/USEPA/US@EPA
cc: DavidW Smith/R9/USEPA/US@EPA
Subject: URGENT re: Delta D.O. objectives disapproval and D.O. TMDL

Terry, Jessica, Jennifer -

The Central Valley Regional Water Quality Control Board (RB5) has proposed amendments to resolve 2 of the 3 disapprovals from our May 2000 action on the 1989-95 amendments to the Sacramento/San Joaquin Basin Plan. Comments on the proposed amendments are due July 1. The amendments that they have proposed address the disapprovals pertaining to the tributary rule/designation of beneficial uses and the misinterpretation of the federal antidegradation policy. I am 100% comfortable with these amendments, and intend to send RB5 a comments letter letting them know that these amendments, if adopted, will resolve those two disapprovals.

Unfortunately, RB5 staff have made a last minute decision NOT to propose any amendments to resolve our disapproval of the 1994 amendments to the dissolved oxygen objectives for the Delta. (I cc'd you 5/13 on an email exchange between Betty Yee (RB5) and me that provides some background on this issue. I'll resend you that email separately.) Below, Betty explains why this decision was made. Based on what she has said here and in the email exchange I sent you on 5/13, it appears that the decision not to resolve the Delta DO disapproval is being driven largely by the concerns of RB staff working on the DO TMDL for the Stockton Deep Water Ship Channel. Understandable as those concerns may be, I'm concerned about water quality objectives being driven by a TMDL

process. Isn't the whole point of a TMDL to find a way to meet the water quality objective, rather than the other way around? I am particularly concerned about this situation because the disapproved DO objectives were adopted in error. The Regional Board has said all along that they never intended to delete the percent saturation DO objectives from the Delta -- they did so inadvertently when they rearranged some of the DO objectives text in a botched attempt to clarify them. So, now, erroneous and disapproved DO objectives are apparently being used as the basis for a TMDL, and fears of disrupting the TMDL process are preventing the objectives from being corrected. Further complicating the situation is the fact that even if the RB rectified the disapproval by restoring the original objectives, those objectives appear to be outdated vis-a-vis EPA's current DO criteria guidance.

So. . .how do we want to handle this? The disapproval is already 2 years old. How much longer are we willing to wait for the Regional Board to resolve it? Should we push them to resolve the disapproval by restoring the objectives to their pre-1994 wording now and let them deal with updating the objectives for consistency with the national guidance later, or wait and see if they really can tackle the whole issue next year as Betty indicates she would like to do? Or is it time for us to bite the bullet and promulgate something to resolve the disapproval and/or make a finding that the objectives need to be updated? The option of waiting to see if the Regional Board can tackle the whole thing next year has some appeal; however, it is not clear whether resources will really be available for them to do that. The triennial review workplan that is presently out for public comment lists "Dissolved Oxygen Objectives" as a low priority for which no resources are currently available.

Comments on the triennial review workplan are due to the RB by July 1, but I am trying to draft my comments this week, since I will be on travel most of next week. Any insights/advice that you can offer regarding how to address this issue in those comments (and in general) will be greatly appreciated. If you want to discuss, I'm available via phone (650-591-3460) tomorrow, and I'll be in the office until about noon on Monday.

-Kathy

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----- Forwarded by Kathleen Goforth/R9/USEPA/US on 06/19/2002 04:22 PM -----

Betty Yee <YeeB@rb5s.swrcb.ca.gov>
05/31/2002 09:47 AM

To: Kathleen Goforth/R9/USEPA/US@EPA
cc:
Subject: Dissolved Oxygen in the Delta

Hi Kathy,

I think this would be easier to explain verbally than in writing but I'll give it a shot. I had to leave out the dissolved oxygen in the Delta while we work out some internal concerns. The office is divided into those that are adamant that the saturation applies and those who are equally adamant that the saturation doesn't apply. Our ex-EO, right before he left, said not to do anything until we knew what we were doing. I'm trying to arrange a meeting with our attorney to see what she says.

The problem is that the Delta is really two parts. The Sacramento River part is good and, I think, meets the

saturation requirement easily. The San Joaquin River part is mostly good except for the deep water ship channel. In our original Delta Plan in 1967, we said that channel didn't have adequate dissolved oxygen and the Corp of Engineer was worsening the problem. However, when I randomly looked at some data, there appeared to be no problem with dissolved oxygen. Obviously, I can't say that because we're doing a TMDL on this issue. So right now, I'm trying to find out exactly what is going on in this channel.

The TMDL is phased and no matter what the objective is, the first phase is to aim for 5 mg/l. The stakeholders have a steering committee and staff have worked with them for years to get them to the point of coming up with implementation strategies (the type that is outside our jurisdiction) to get to 5 mg/l. It's unknown how well these implementation strategies will work, so they want to evaluate them after implementation then decide how to proceed to the second phase which is the 6 mg/l. Since it took so long to get to this stage, the TMDL staff are worried that any change in the objective will divert the steering committee and possibly endanger the implementation strategies. They want the opportunity to introduce the steering committee to the saturation objective before we present it them with the draft basin plan amendment.

Anyway, I don't want to hold up the triennial review so I'm going ahead with that along with the bacteria objective, the beneficial use language, and the other non-regulatory changes. Once we decide on new language, I think we can go forth with a new amendment. It'll probably be next year because I want to take the waivers out of the basin plan, too. However, we should be in the process of the dissolved oxygen amendment before you officially get the amendments that we're working on now.

Betty